Tesla Coil DIY Kit

1. Introduction

The Tesla coil can produce high temperature and high pressure plasma, which can sing, ignition, wireless transmission, and light fluorescent lamp. It has a wonderful arc. It is a very interesting small production of scientific experiments. This is DIY Tesla coil Kit parts, which needs to be soldered and assembled by yourself.

2. Parameter

1>. PCB size: 4.0mm*8.0mm

2>. Power: 15W

3>. Power input: DC 15-24v. The current is 2A. DC5.5 interface / pin

4>. Audio input: 3.5 socket, can be connected to mobile phone, MP3, computer audio

3. Function

Tesla coil is a transformer that operates on resonance principle. It was invented by Nicola Tesla, a Serbia American scientist in 1891. It is mainly used to produce ultra high voltage, but low current, high frequency AC power. The Tesla coil is composed of two groups of resonant circuits (sometimes three groups) coupled. The Tesla coil is difficult to define, and Nicola Tesla has tried a large number of configurations of various coils. Tesla uses these coils to carry out innovative experiments, such as electrical lighting, fluorescence spectrum, X ray, high frequency alternating current phenomenon, electrotherapy and radio energy transmission, transmitting and receiving radio signals.

4. Feature

1>. Electric arc function: the traverse of the rear end will produce an arc. The arc can also ignite.

2>. Septum light function: after the Tesla coil is electric, the fluorescent lamp can be lighted apart.

3>. Music playback function: a new concept loudspeaker for electric arc to stimulate air to make air vibration produced by plasma. You can play mobile / computer music, but the sound is small.

5. Component listing

NO.	Component Name	PCB Marker	Parameter	QTY
1	Metal Film Resistor	R1,R4	10K	2
2	Metal Film Resistor	R3,R5	2K	2
3	TIP41	Q2		1
4	LED	LED1,LED2	3mm	2
5	Audio Socket	J2		1
6	Electrolytic Capacitor	C1	1uf	1
7	Ceramic capacitor	C2	1uf	1
8	IRF530	Q1		1
9	Power Socket	J1	5.0*2.1mm	1
10	Primary coil	L1	2-3T(Cable)	1

11	Secondary coil	L2	350T	1
12	Copper pillar		M3*10	4
13	Screw		M3*6	4
14	Heat sink			2
15	Light			1
16	PCB		40*76mm	1

6.Note:

1>.There is no direct contact between the primary coil and the secondary coil, and the gap must be reserved, otherwise it may not work properly.

2>.The winding direction of the secondary coil must be consistent with the picture, otherwise it will not work properly.

7.Frequently asked questions

1>.Why the finish kit only LED light?

The wire winding direction should be counterclockwise , different direction will make the current flow different , wrong direction will make the kit doesn't work.

Another important is the wire which wrapped around the Tesla coil , shouldn't touch tesla coil , must have a gap between them.

If you afraid the wire will touch , you could let the wire with loose wrapp.

2>.The wire winding is correct , why the item still not work?

I have a test , when the Voltage is 15-19V, the kit doesn't have the spark , but when i make the voltage up to 20V, so surprise. Beautiful spark and creative miracle.

3>.Can I touch the spark with my finger?

You could touch it with very very fast speed, it's dangerous , if you stay more time , your finger will be hurt. There is magical effect after you touch it with a fast speed, the spark will become a round tesla ring.And the greater the amplitude of the sway, the wider the diameter of the ring.

Children must be accompanied by an adult.

4>.What's the staliness ball function(If you have not purchased separately, please ignore this issue)?

You could use the ball to touch the spark and pull distance slowly , can't exceed 10cm , you could see the purple tesla spark , very interesting.

Another you could pull the ball on the top of coil,also could produce sparks.

8 Installation Steps

Tips:

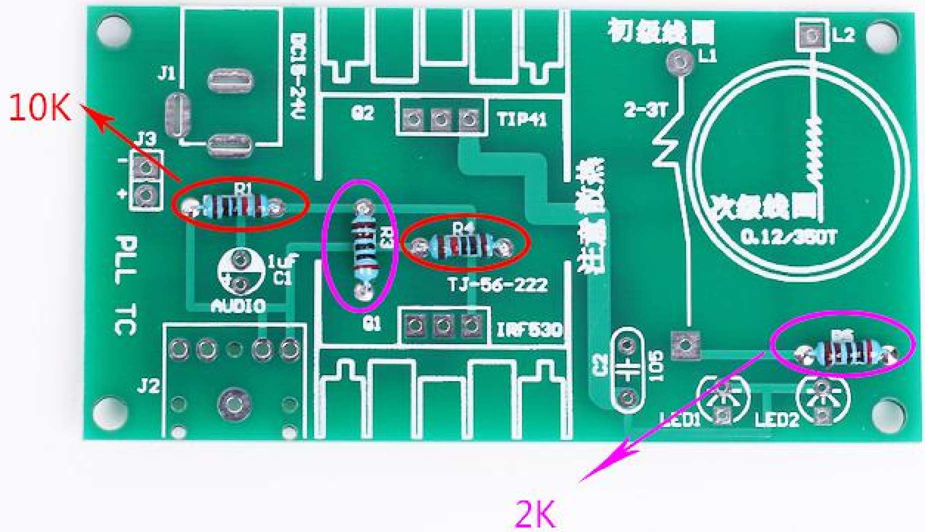
1>. Install small components at first;

2>. Install complex components preferentially;

3>. Pay attention to the installation direction of components.

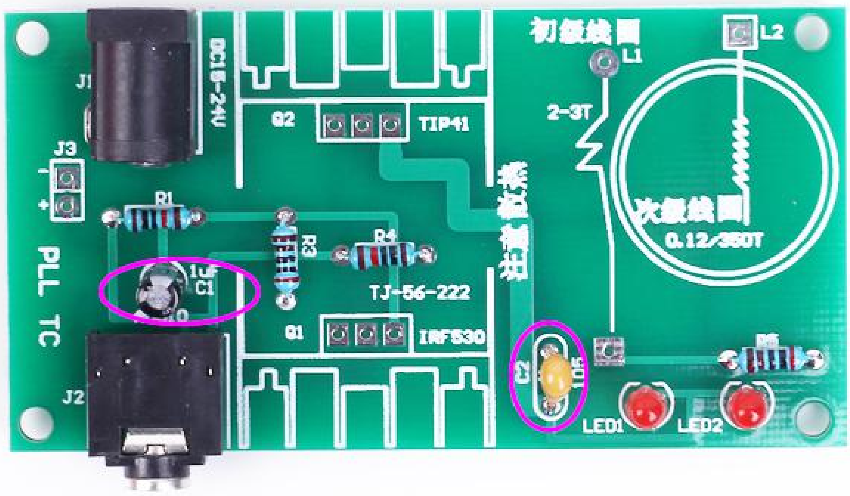
4>. Make sure the soldering iron does not touch the components for a long time.Otherwise it is easy to damage the components.

Step 1: Install 4pcs Resistor.

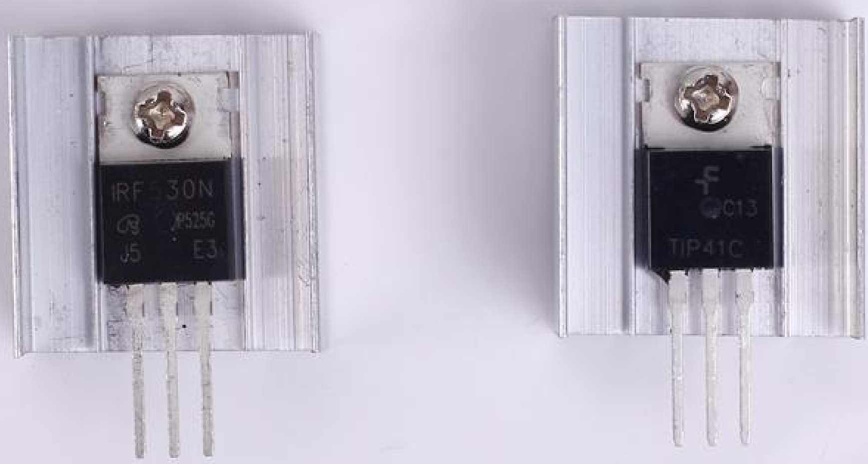


Step 2: Install 2pcs LED,1pcs Ceramic capacitor,1pcs Electrolytic Capacitor,1pcs Audio socket and 1pcs Power socket

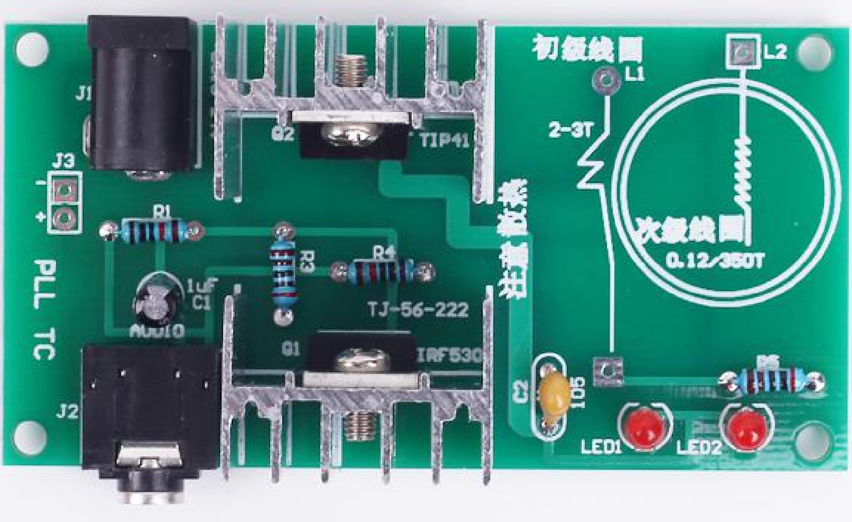
Pay attention to the installation direction!



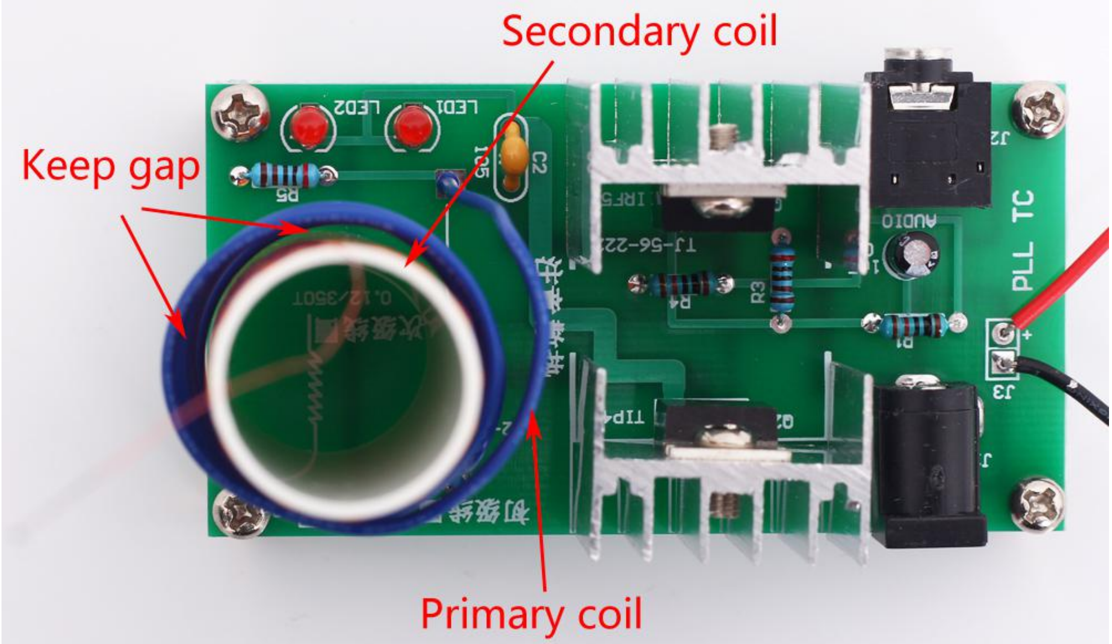
Step 3: Install the heat sink for 2pcs IC



Step 4: Fixed 2pcs IC

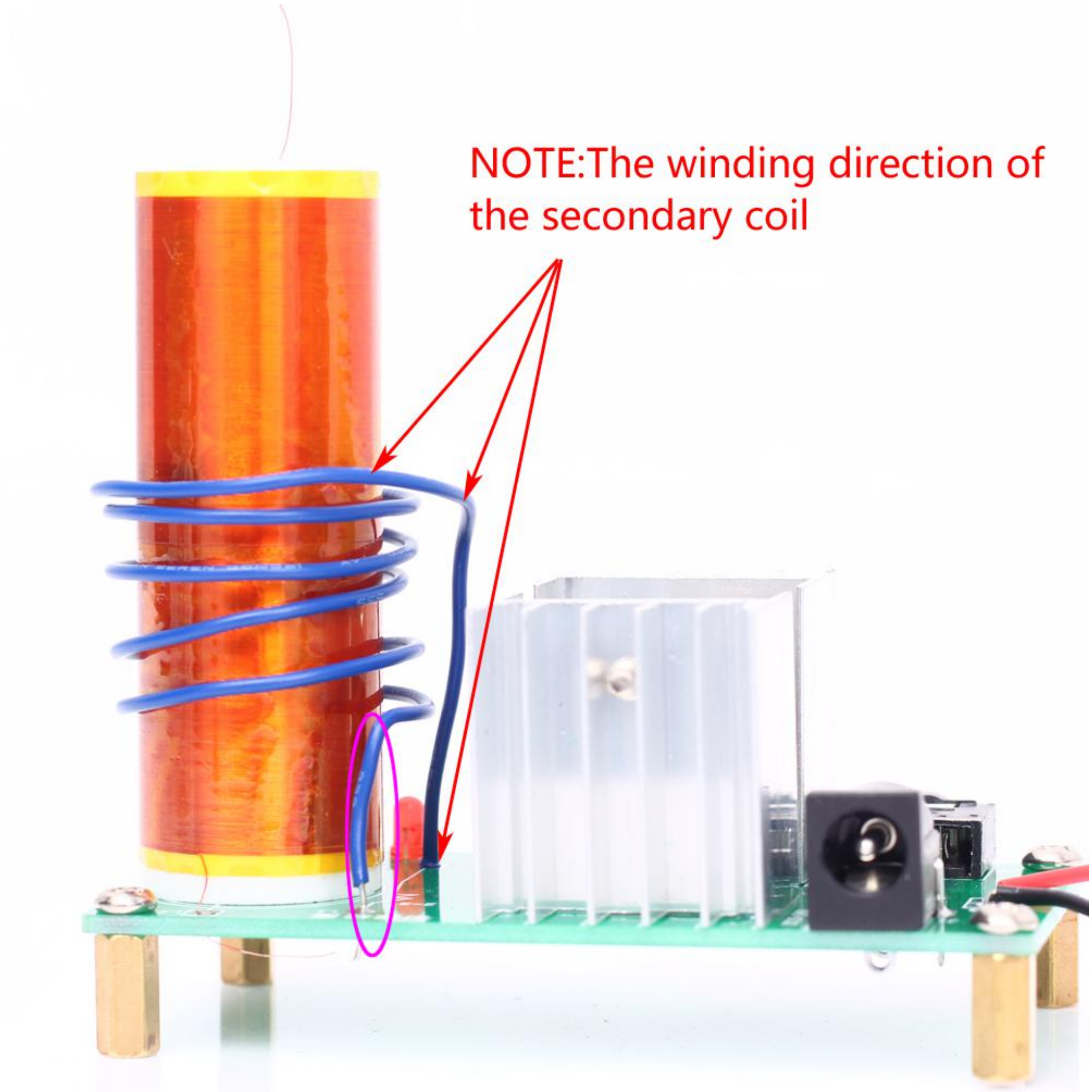


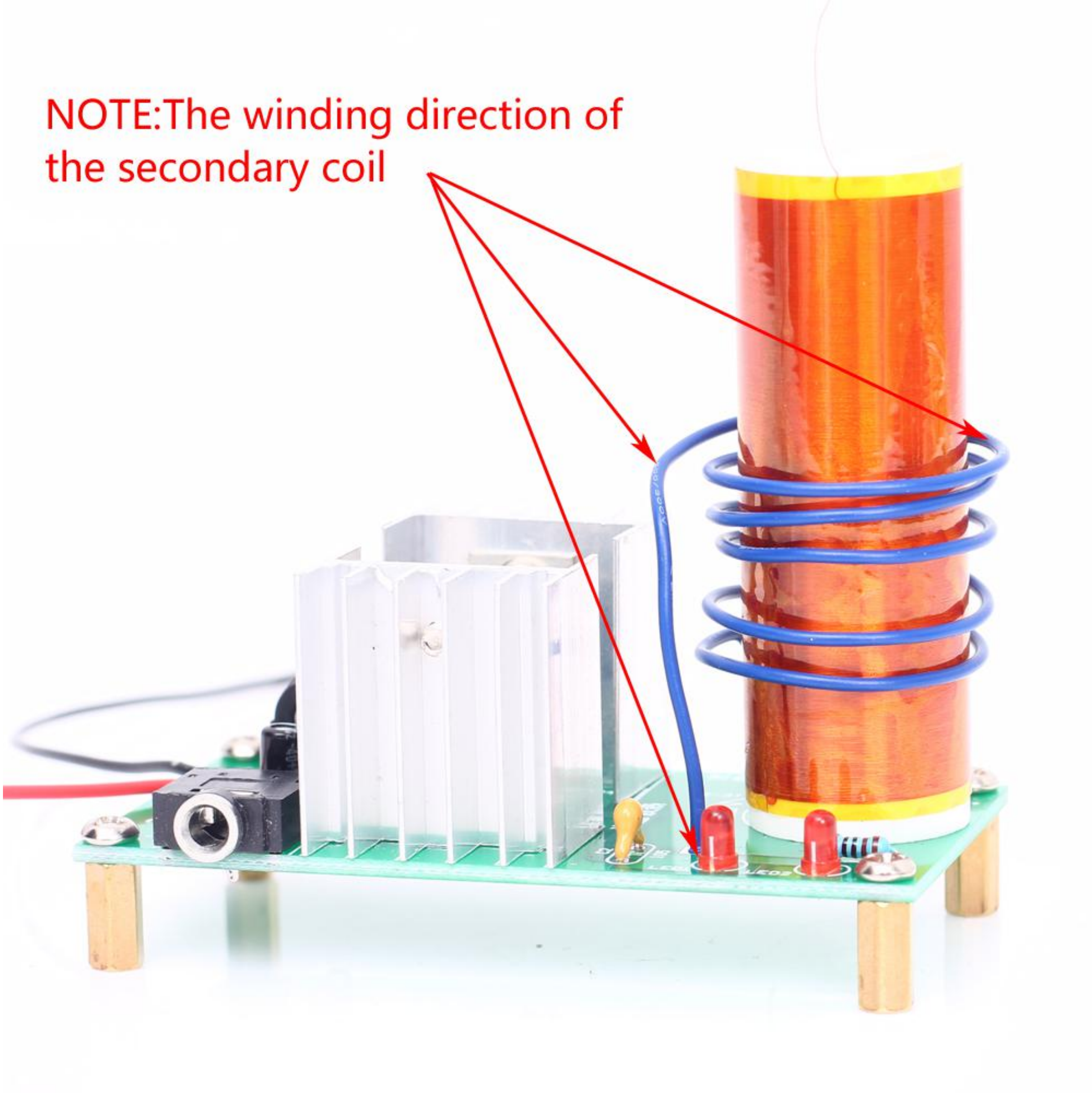
Step 5: Install coil:



Note:There is no direct contact between the primary coil and the secondary coil, and the gap must be reserved, otherwise it may not work properly.

Note:The winding direction of the secondary coil must be consistent with the picture, otherwise it will not work properly.


NOTE:The winding direction of
the secondary coil


NOTE:The winding direction of
the secondary coil